During flowering "floral tubes" formed by the glumes around the inflorescence (Fig 1, a) are produced through the water and mud in which the plant is rooted as the leaves unsupported by water lie on the mud (Fig 1, c). This ensures the stigma and stamens are held above the water in the air (pollination is by wind). Plants occur in dense populations in these claypans.

The individual inflorescence is protandrous, normally the pollen being shed before the stigma emerges (Fig 1, B). However, when manual self pollination was performed on cultivated plants from Orange Grove and Midland well filled nuts were produced, suggesting the plants are self fertile.

Seeds develop with the floral tube (Fig 1, d and e) and remain *in situ* in the dead adult plants foilage during summer. The first heavy rains and storms of winter break up the adult plants allowing germination to occur in the same site that the adult occupied.

The floral morphology of this species of *Shoenus* is unique in the genus, and relates closely to its aquatic lifestyle. Unlike all other species the inflorescence acts as a single flower and its placement in the genus *Schoenus* may be questioned.

CONSERVATION

Two of the three known populations of this unusual annual are currently within existing or proposed conservation reserves. However both of these are small and the species would be exceedingly vunerable to disturbance of the hydrological cycle of these ponds (by drainage) or weed invasion (changing the fire regime, direct competition or changing the wind flow patterns around the claypan).

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FIRST RECORDS OF THE MULGARA, *DASYCERCUS CRISTICAUDA*, FROM THE GIBSON DESERT AND QUEEN VICTORIA SPRING NATURE RESERVES

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The Mulgara, *Dasycerus cristicauda*, has a wide distribution in the arid regions of the Northern Territory, South Australia, Western Australia and the south-western corner of Queensland (Woolley 1983). Throughout most of its range it is considered rare, except in the Tanami Desert (N.T.) where Gibson (1986) reported it was "generally widespread and common".

In Western Australia, the Mulgara has been collected sporadically over the last 80 years, and predominantly north of 22° latitude. The first specimen lodged with the Western Australian Museum was caught in 1907 by A.W. Canning near Mt. Romilly, whilst he was surveying the stock route from Halls Creek to Wiluna that now bears his name.

The taxidermist Otto Lipfert accompanied a well-fitting party in 1930-31 and found Mulgaras abundant along the stock route, collecting 52 specimens (McKenzie & Youngson 1983). A further specimen was collected at Point Massie on the Canning Stock Route in 1943.

Subsequent occasional records have come from pastoral stations and mine sites in the Pilbara, the Warburton Range area and a single specimen from the Great Victoria Desert (29°55'S, 123°46'E). Interviews with Aboriginal people have also indicated a wide former distribution (Burbidge *et al.* 1988). No specimens have been previously recorded from any desert nature reserve in Western Australia.

This paper reports on the capture of Mulgaras in the Gibson Desert and Queen Victoria Spring Nature Reserves, the latter being its southern-most known occurrence in Western Australia. The animals were caught during studies investigating the effect of fire on desert vertebrates. Two basic trap types were used; 10m long drift fences with either two or three pits (160mm and 250mm diameter; 600mm deep) and medium (33 by 10 by 10cm) Elliott metal traps, baited with a mixture of peanut butter, oats and sardine oil. Both animals were captured in 250mm diameter pitfalls.

A male Mulgara was trapped on 14 January 1989 6km SW of the Young Range in the Gibson Desert (25°05'S 124°57'E) on red sandplain dominated by the spinifex *Plectrachne schinzii* with occasional *Triodia basedowii*, together providing approximately 35% aerial cover. Desert Bloodwood, *Eucalyptus centralis* (formerly *E. terminalis*), and shrubs of *Hakea suberea, Eremophila leucophylla* and *Acacia dictyophleba* were sparsely distributed throughout the area. More than 20 years had elapsed since the last fire and the spinifex was more than 1m high.

A female was caught 25km NNE of Queen Victoria Spring on 8 December 1987 in long unburnt (>30 years) hummock grassland, dominated by *T. basedowii*. Soils were deep yellow sands with occasional low deflated dunes. *Eucalyptus gongylocarpa, E. mannensis* and *E.youngiana* were abundant and a diverse shrub layer of *Hakea francisiana, Allocasuarina corniculata, A. acutivalvis, Acacia helmsiana, Bertya dimerostigma* and *Phebalium* spp. was present. The pouch was well-furred and indistinct, indicating it was not breeding at that time, in contrast to other sympatric dasyurids *(Ningaui ridei, Sminthopsis hirtipes* and S. *psammophila).*

Both animals were caught after many trap-nights (800 pitfall and 275 Elliott and 6300 pitfall and 2312 Elliott respectively), indicating that this species is either present at very low densities or is not adequately captured using the trapping methodology described above. The Mulgara is currently gazetted as "fauna that is likely to become extinct or is rare" under the Western Australian Conservation Act (1950). Infrequent collection warrants such classification, unless further trapping or perhaps better methodology can indicate that, despite seasonal fluctuations, populations are resilient through time.

The few recent records compared to times past, suggests populations have declined considerably and parallels the fate of many other Australian desert mammals (Morton and Baynes 1985).

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BEHAVIOURAL MIMICRY IN THE AUTOMIZED TAIL OF A PYGOPODID LIZARD

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Although the morphology (Etheridge 1967; Arnold 1984; Bellairs and Bryant 1985) and ecology (Vitt *et al.* 1977); Vitt 1983; Arnold, 1988) of tail autotomy in lizards are thought to be indicative of a complex and highly structured adaption (Arnold 1990), the behaviour of autotomized tails is usually thought to be simple and unstructured, indeed almost random. Standard descriptions of post-autotomy tail movements are: "thrashing" (Clark 1971; Dial and Fitzpatrick 1983), "twitching" (Daniels 1983; Vitt and Cooper 1986) and "writhing" (Bellairs and Bryant 1985). The "functional significance" of this behaviour is thought to be to distract a predator's attention from the fleeing lizard (virtually all authors), but for some energy rich tails it is also thought possibly to enhance the "escape" of the tail itself so that it can later be eaten by the owner (Clark 1971). In view of this understanding of postautotomy tail behaviour, I was struck during a recent collecting trip to Western Australia, to observe the autotomized tail of a *Pygopus lepidopodus* behave in a manner previously unrecorded for any other autotomized squamate tail.